

CLAIMS

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1. A loudspeaker comprising a phase uncorrelated diffuse sound source and a duct or wave guide coupled to the sound source to direct acoustic energy from the source, the duct or wave guide having a substantially parallel section extending from the vicinity of the sound source and a termination positioned remotely from the sound source.
2. A loudspeaker according to claim 1, wherein the sound source comprises a bending wave mode acoustic radiator panel.
3. A loudspeaker according to claim 2, comprising a transducer fixed to the panel to excite resonant bending waves therein, the resonant bending wave modes associated with each of the axes of the panel being arranged to be interleaved in frequency and the transducer location being chosen preferentially to couple to the resonant bending wave modes.
4. A loudspeaker according to claim 3, wherein the duct is shaped as a narrow slot in cross-section.
5. A loudspeaker according to claim 4, wherein the duct is terminated by a horn section.
6. A loudspeaker according to claim 2, wherein the panel is located in the duct to couple acoustic radiation from both sides of the panel.
7. A loudspeaker according to claim 2, comprising an acoustic reflector coupled to the duct and to the sound source to direct acoustic radiation into the duct.

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8. A loudspeaker according to claim 2, wherein the duct has a plurality of terminations.
9. A loudspeaker according to claim 2, comprising a plurality of the panels coupled to the duct.
- 5 10. A loudspeaker according to claim 2, wherein the duct is folded.
11. A loudspeaker according to claim 2, comprising an attenuator controlling sound output from a duct termination.
- 10 12. A loudspeaker according to claim 2, comprising means subdividing the duct into a plurality of wave guides extending along the duct.
13. A loudspeaker according to claim 12, wherein the duct is subdivided in two directions.
- 15 14. A loudspeaker according to claim 2, comprising an acoustic reflector disposed to direct the acoustic output from a duct termination.
15. A loudspeaker according to claim 2, comprising enclosure means enclosing one face of the panel.
- 20 16. A loudspeaker according to claim 2, wherein the plane of the panel is parallel to the axis of the duct.
17. A loudspeaker according to claim 1, wherein the duct is shaped as a narrow slot in cross-section.
18. A loudspeaker according to claim 17, wherein the duct 25 is terminated by a horn section.
19. A loudspeaker according to claim 1, wherein the duct is terminated by a horn section.

20. A loudspeaker according to claim 1, comprising an acoustic reflector coupled to the duct and to the sound source to direct acoustic radiation into the duct.

21. A loudspeaker according to claim 1, wherein the duct 5 has a plurality of terminations.

22. A loudspeaker according to claim 1, wherein the duct is folded.

23. A loudspeaker according to claim 1, comprising an attenuator controlling sound output from a duct 10 termination.

24. A loudspeaker according to claim 1, comprising means subdividing the duct into a plurality of wave guides extending along the duct.

25. A loudspeaker according to claim 24, wherein the duct 15 is subdivided in two directions.

26. A loudspeaker according to claim 1, comprising an acoustic reflector disposed to direct the acoustic output from a duct termination.

27. A loudspeaker according to claim 1, comprising 20 enclosure means enclosing one face of the panel.

28. A loudspeaker according to claim 1, wherein the plane of the panel is parallel to the axis of the duct.